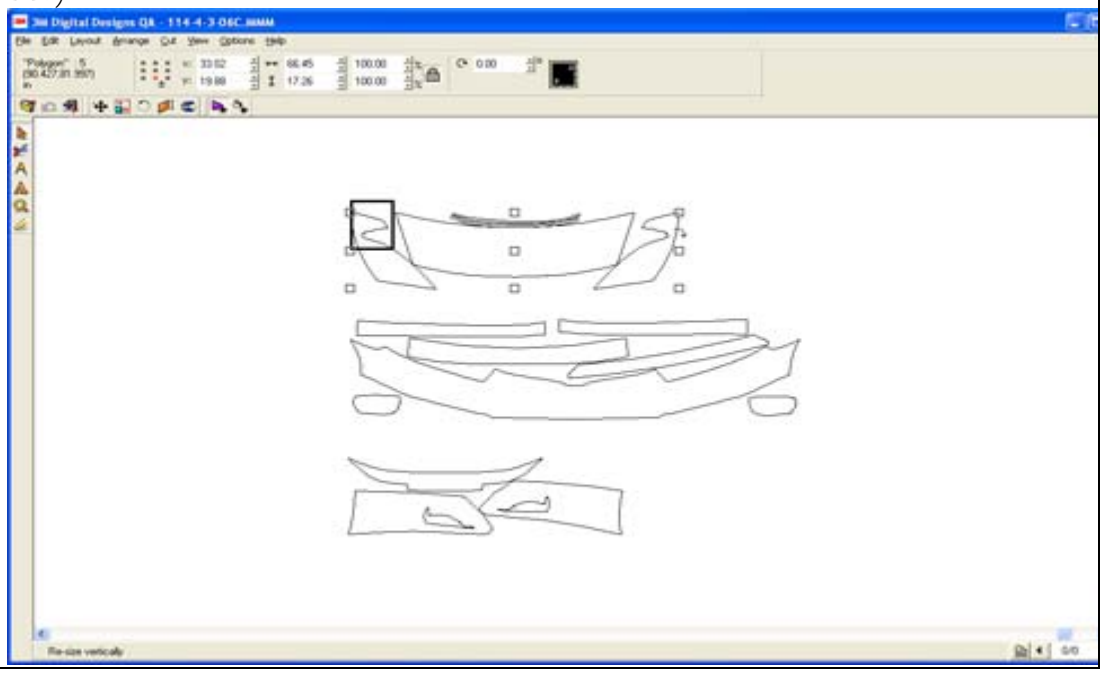
3M Digital Designs

Cutting a Pattern

* These instructions use Roland® brand plotters to illustrate how to cut a Digital Designs pattern. If you use a different brand of plotter follow that manufacturers recommended procedures for setting film into your cutting machine. At this point, our cut job is shown in **Cut Preview** mode. We now want to confirm that we have loaded a roll of the appropriate dimensions.

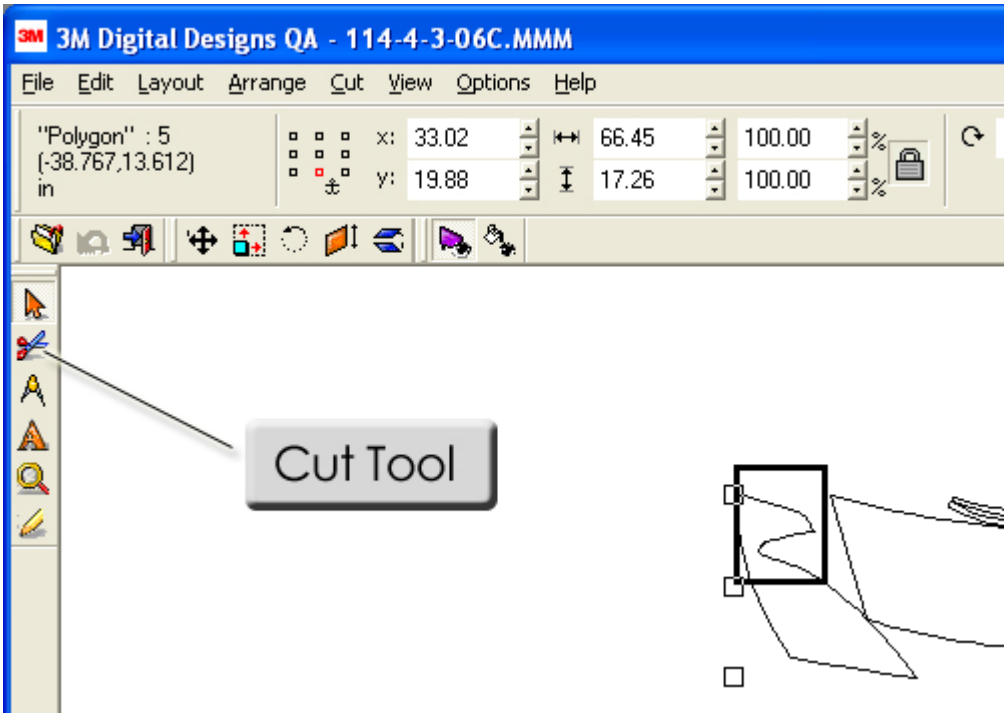
1. For the body package that you want, click the **Download** link.
2. The body package should now appear on the 3M Digital Designs workspace, and each of the objects corresponds to the body parts of the given vehicle.

Note that the pieces have been arranged to minimize the amount of waste material (i.e.,
film).

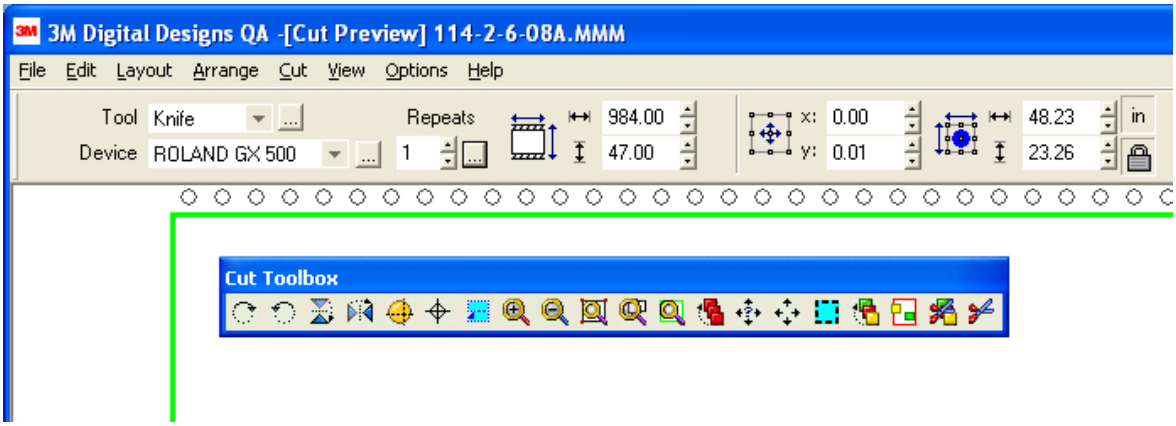


Note how objects within the body package are grouped in order to minimize wasted material when cutting. In this screenshot, the objects are grouped in three collections, and the top collection has been selected prior to cutting.

3. With the mouse, drag a marquee box to select the body parts that you wish to cut.
4. A bounding box will indicate the corners and sides of your selection.
5. At the far-left of the workspace is the **Tools** toolbar.
6. On the **Tools** toolbar, locate the **Cut Tool**, which has the appearance of a pair of scissors.
7. Click the **Cut Tool**.



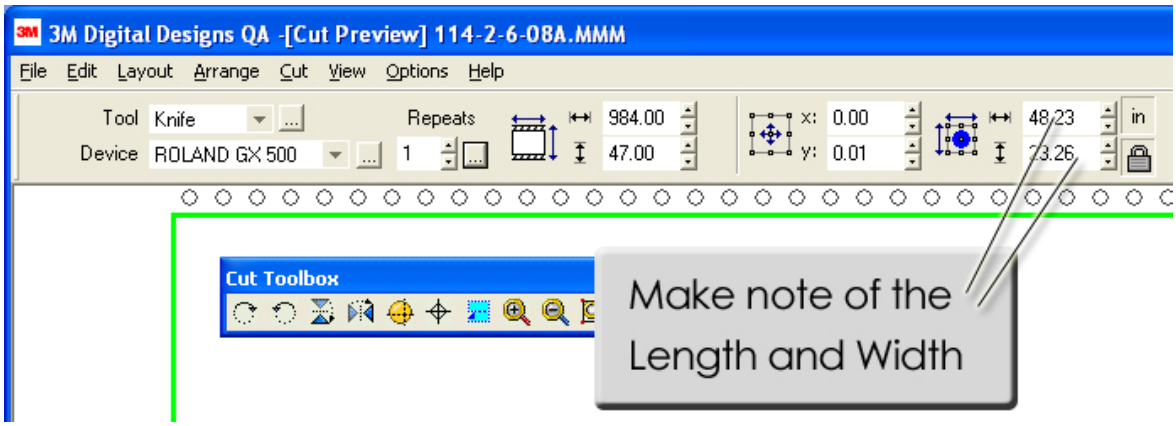
8. Your selected portion of the body package will now be previewed in a **Cut Preview** mode.
9. Cut settings will appear along in the SmartBar along the top of the workspace.
10. A floating **Cut Toolbox** will also appear.



Loading Film into the Plotter

* These instructions use Roland® brand plotters to illustrate how to cut a Digital Designs pattern. If you use a different brand of plotter follow that manufacturers recommended procedures for setting up film into your cutting machine. At this point, our cut job is shown in **Cut Preview** mode. We now want to confirm that we have loaded a roll of the appropriate dimensions.

1. In the SmartBar, confirm the Length **(Horizontal Size**) and the Width **(Vertical Size**) values that are listed.



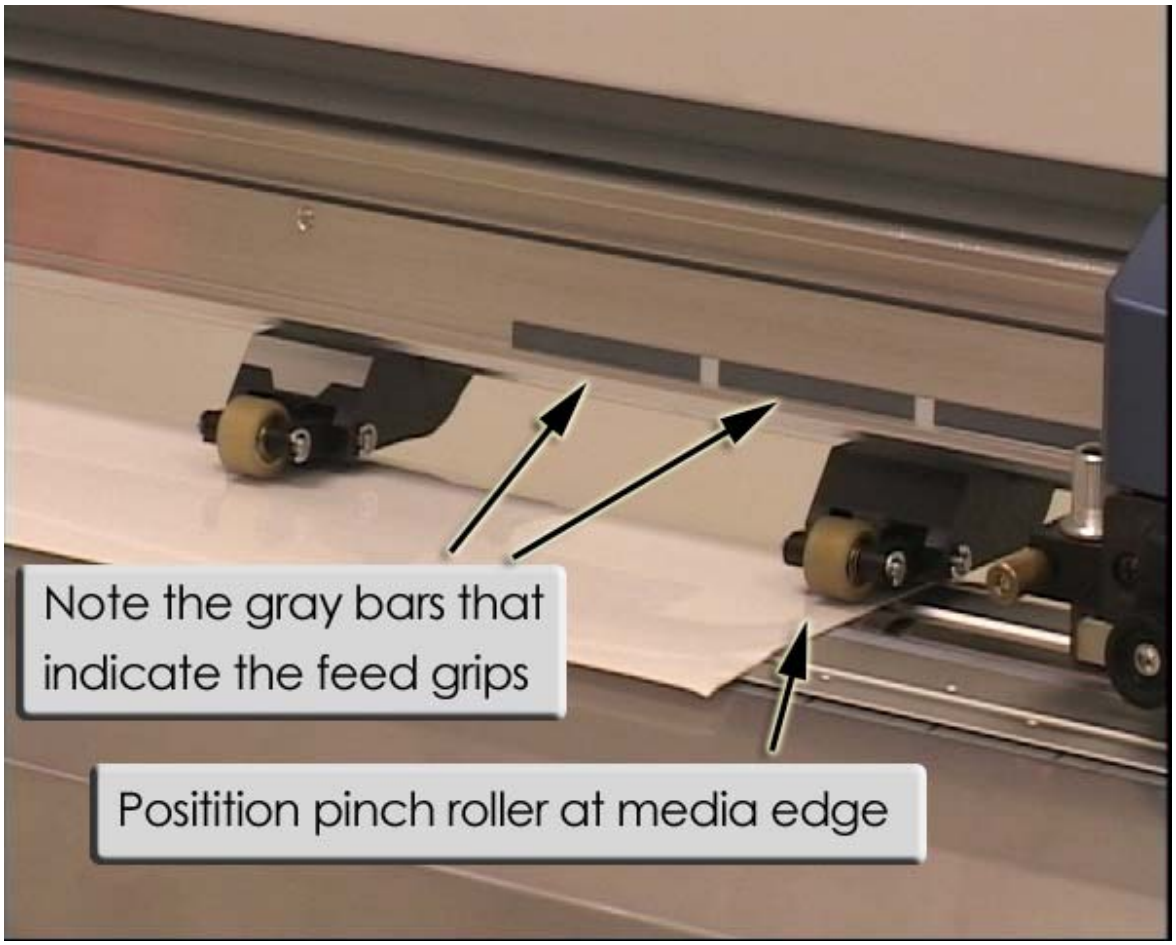
- Typically, the top field indicates the length of media that will be fed through the plotter.
- Likewise, the bottom field indicates how “tall” or “wide” the piece is. Use this value as a guide for choosing the roll width that is loaded into the plotter.

2. Before proceeding, walk over to your plotter confirm the loaded media.
3. When loading new media into the plotter, always check that the width is sufficient, and that the roll length will accommodate the job.
4. Behind the plotter are two bars. Place the roll of media ON TOP of these bars.

5. Behind the plotter are levers that are used to raise and lower the pinch rollers when loading media.

6. Raise the pinch rollers, and then feed the media under the pinch rollers.
7. Position the pinch rollers, such that they line up with the feed grips that are beneath the media.

Above the pinch rollers, notice that the gray bars indicate where the feed grips is beneath the media.

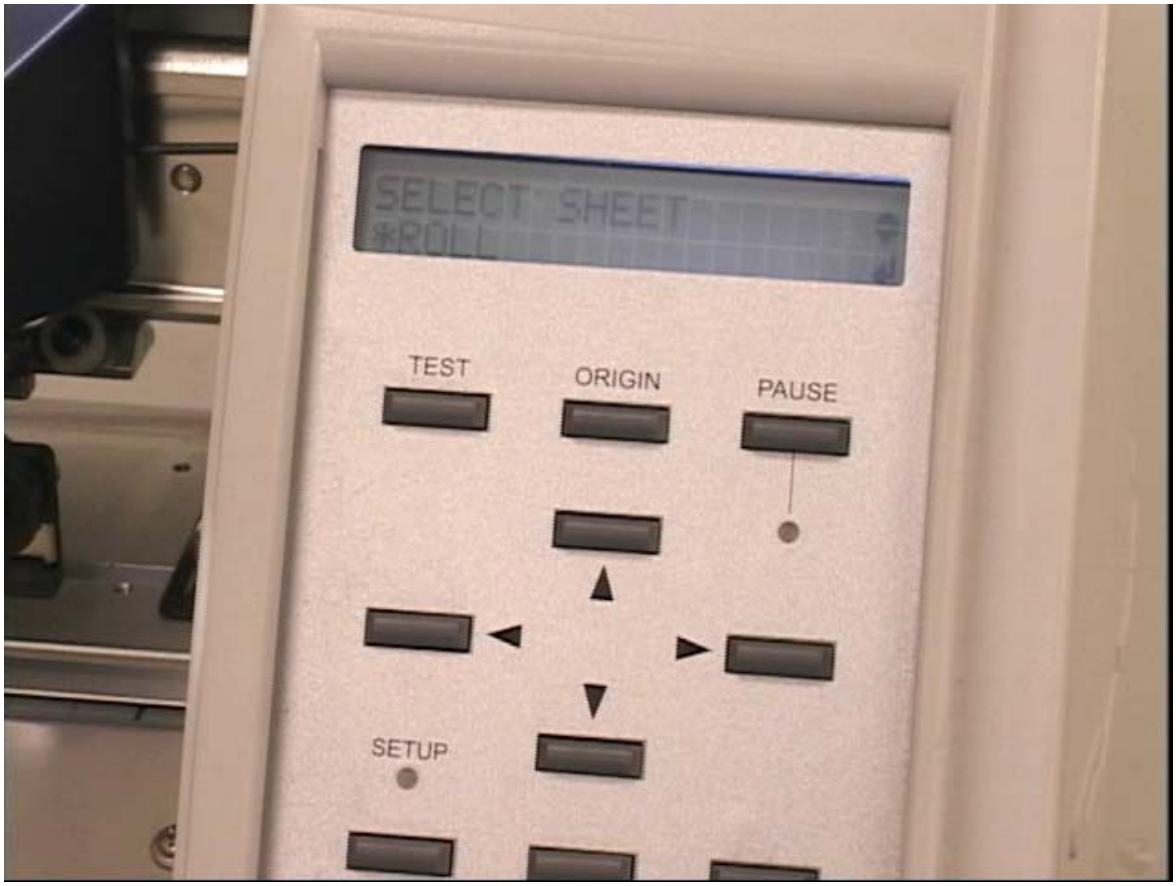


8. Ideally, the pinch rollers will be positioned close to the edges of the media, such that you have the maximum amount of media available for cutting.
9. Behind the plotter, use the levers to lower the pinch rollers, such that the media is ready for cutting.

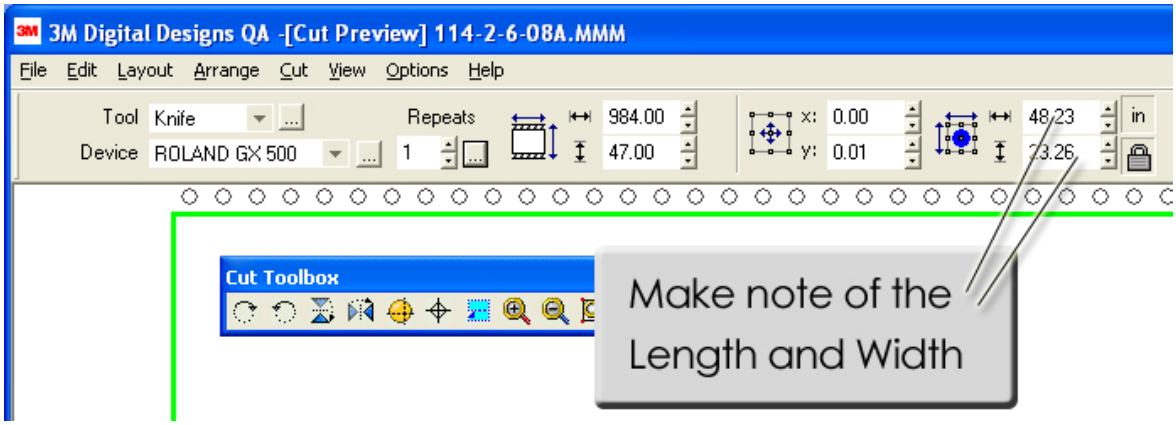
The Plotter Control Panel

Once the media has been loaded, we want the plotter to measure the media width, which we will check versus the width of our design.

1. On the plotter control panel, there are directional buttons for positioning the plotter head.
2. There is also a status screen that provides information about the plotter status.



3. Now that the pinch rollers have been lowered into place, the status screen will query whether you have loaded a roll or sheet of media.
4. As can be seen on the status screen, "roll" is the default selection.
5. On the control panel, press the **[Enter]** button to confirm the "roll" selection.
6. At this point, the plotter head will move the full length of the machine and measure the width of the media.
7. The control panel will indicate the width of the media.
8. Back in the **3M Digital Designs** application, confirm that the job width will fit the measured width of the media.



Confirming the Available Length of Media

1. In the **3M Digital Designs** application, make note of the media length that is required to complete the job.
2. On the plotter control panel, press the **[DOWN]** button to feed the media, until you can confirm that there is enough media.

   The control panel will display the amount of media that is being fed.

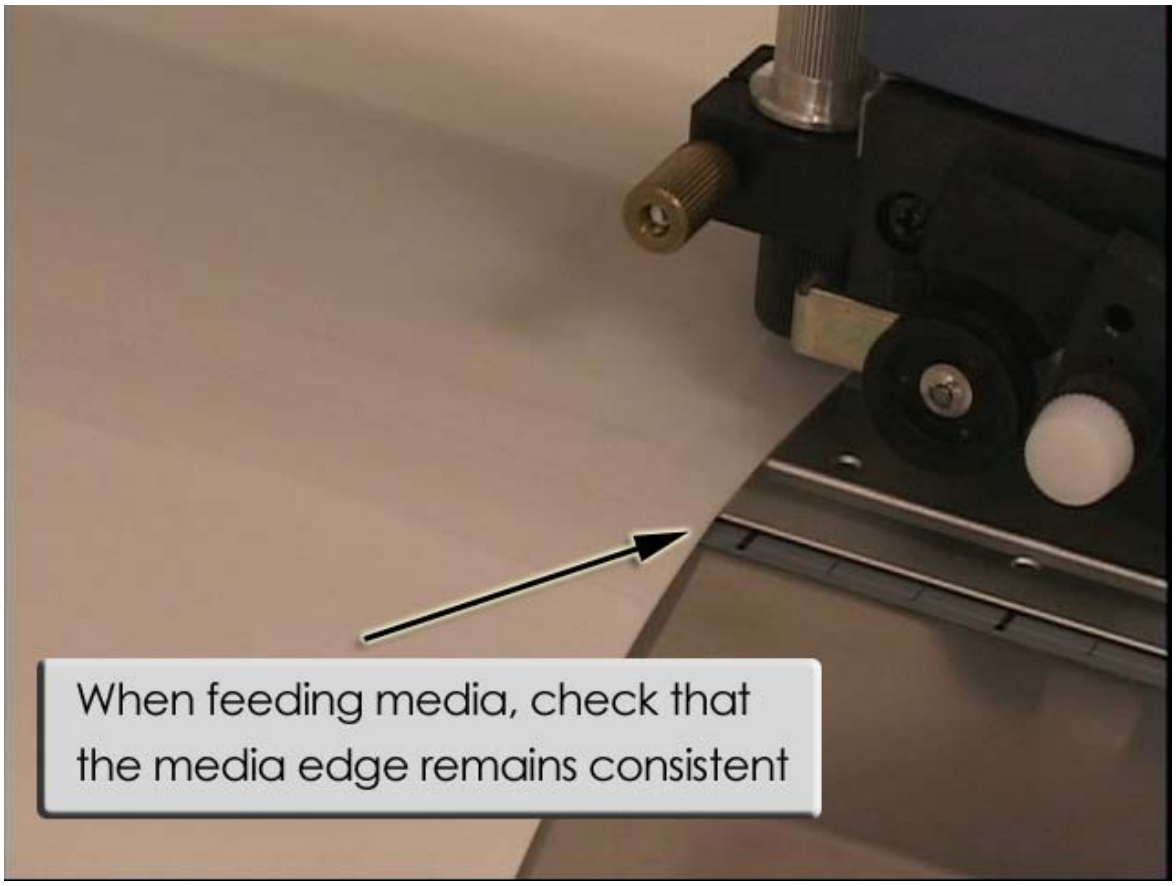
3. Once you have confirmed that there is enough media press the **[UP]** button to feed the media back to the starting position.

> **Note:** When feeding the media, it is critical that the media is feeding straight (i.e., it is not skewed at an angle). Otherwise, there is a risk that angled cuts can be created that will not meet the exact cuts required to fit the vehicle.

Confirming that the Media is Aligned

1. Beneath the media and plotter head are graduations that are used to observe media alignment.
2. When the media is at the home position, make note of where the media edge is with respect to the graduations.
3. On the control panel, press the down button to feed the media.
4. If the media is aligned, then the media edge should remain consistently along the same position as at the home position (i.e., the edge does not drift).

   Slight movement of perhaps 1/32" is acceptable. Otherwise, it is necessary to release the pinch rollers and realign the media.



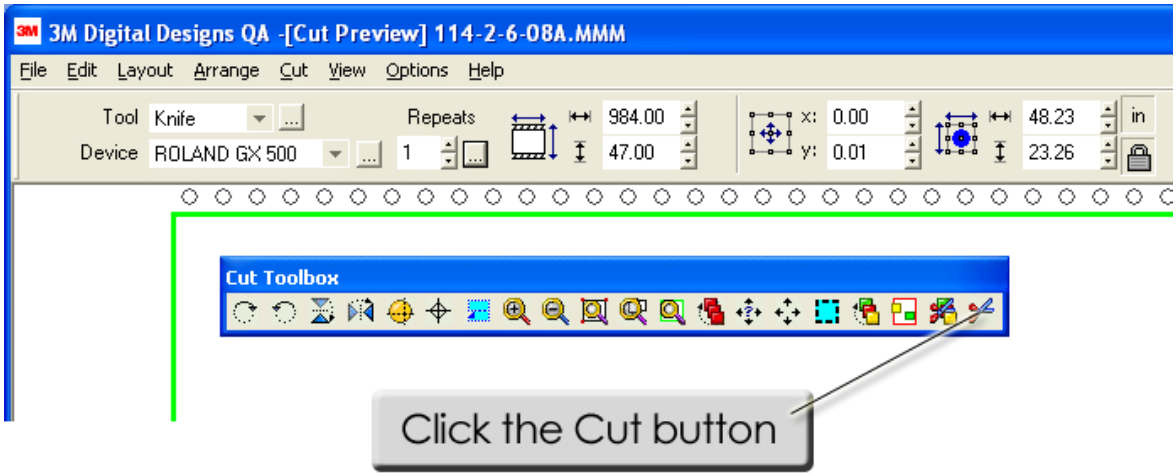
Cutting the Media

Back in **3M Digital Designs**, we are now ready to output the cut job. The job should still be in **Cut Preview** mode, and the **Cut Toolbox** should be floating over the workspace.

1. At the far-right of the **Cut Toolbox**, click the **Cut** button.
2. The cut data will now be sent to your plotter, and the media will feed back and forth, whilst the plotter head scores the media.

   If we had not taken care to align the media on the plotter, then bad cuts would likely occur at this stage.

3. When the cutting is complete, the plotter head will move to the end of the job and cut the media, thereby separating the job from the media roll.



Cutting the Next Piece

1. In 3M Digital Designs, click the **Close** button to exit **Cut Preview** mode.
2. Press **[F7]** to zoom to the remaining artwork.
3. Repeat the previous steps of selecting the job, activating cut preview, checking for available media length on the roll, and outputting the job.